TS 2301
.P5 A4
1914
Copy 1

DEPARTMENT OF COMMERCE
U.S. BUREAU OF THE CENSUS
SAM. L. ROGERS, DIRECTOR

CENSUS OF MANUFACTURES 1914

NEEDLES, PINS, AND HOOKS AND EYES

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

CONTENTS

	Page
Explanation of terms	2
Summary and analysis	3
Scope of the industry	3
Summary, by states	3
Persons engaged in the industry	4
Wage earners employed, by months	4
Prevailing hours of labor	5
Character of ownership	5
Summary and analysis—Continued.	
Size of establishments	5
Engines and power	6
Fuel	6
Special statistics relating to quantity and value of products	7
Detail state tables	8
Table 13.—Comparative summary for 1914, 1909, and 1904	8
Table 14.—Detail statistics, by states: 1914	8

17-20899

WASHINGTON
GOVERNMENT PRINTING OFFICE
1917

EXPLANATION OF TERMS.

Scope of census.—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention should be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or whose products were valued at less than $500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1914, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

The establishment.—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1914 and 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

Persons engaged in the industry.—The following general classes of persons engaged in the industry distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. In comparative tables covering the census of 1904 it is of course necessary to group the figures according to the classification that was employed at the earlier censuses.

The number of persons engaged in the industry, distributed by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most establishments normal conditions of employment, but where this date was not a representative day an earlier date was chosen.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained approximates the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for the industry as a whole, the per cent distribution by sex and age of the wage earners reported for December 15, or the nearest representative day, has been calculated from the actual number reported for that date, the percentages thus obtained have been applied to the average number of wage earners for the year in the industry to determine the average number of men, women, and children employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates from month to month. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and represent the approximate number who would be required to perform the work if all were continuously employed during the year, whereas the actual number to whom the total wages were paid would be larger.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a limited number of wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital.—The instructions on the schedule for securing data relating to capital were as follows:

> The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises.

These instructions were identical with those employed at the census of 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating very general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

Materials.—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include internal revenue, corporation income tax, and state, county, and local taxes. In some instances the amount of the corporation tax for 1914 had not been ascertained when the report was prepared and the amount paid for 1913 was given.

Value of products.—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

Value added by manufacture.—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

Cost of manufacture and profits.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of interest or depreciation, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use, since in most cases an engine or motor is not required to deliver continuously its full rated horsepower.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.

D. of D.
OCT. 13 1917

Recat. R.V.S. 8 T 38

NEEDLES, PINS, AND HOOKS AND EYES.

By Frank Adams.

SUMMARY AND ANALYSIS.

Scope of the industry.—This report presents statistics for the manufacture of (1) needles, which include knitting-machine needles, sewing-machine needles, and darning, canvas, and bag needles; (2) pins, including common or toilet pins, safety pins and hairpins of metal; and (3) hooks and eyes.

The manufacture of pins was first reported as an industry at the census of 1850, and that of needles and hooks and eyes at the census of 1860. It is probable, however, that these articles were manufactured in the United States, to some extent, prior to the time statistics for them were given in the census reports. At the census of 1860 they were reported in four separate classes—pins, needles, sewing-machine needles, and hooks and eyes, but in 1869 they were consolidated into the two classes—needles and pins, and hooks and eyes. In 1904 these two classes were combined, and since that time the general statistics of capital, employees, etc., have been presented for needles, pins, and hooks and eyes as a single industry.

In 1869 there were 48 establishments reported as manufacturing needles, pins, and hooks and eyes. These establishments gave employment to 841 wage earners, and their products were valued at $1,225,436. While there has been but little change in the number of establishments reported at subsequent censuses, the industry has steadily progressed. The number of wage earners reported for 1914 and the value of products were more than six times as great as at the census of 1869, and the cost of materials more than seven times as great.

Table 1 summarizes the statistics of establishments engaged in the manufacture of needles, pins, and hooks and eyes for each census from 1879 to 1914 and gives percentages of increase for the various items shown.

Table 1

	NUMBER OR AMOUNT.						PER CENT OF INCREASE.[1]				
	1914	1909	1904	1899	1889	1879	1909–1914	1904–1909	1899–1904	1889–1899	1879–1889
Number of establishments	49	49	46	52	55	45					
Persons engaged	5,750	4,978	4,196	(2)	(2)	(2)	15.5	18.6			
Proprietors and firm members	20	27	31	(2)	(2)	(2)					
Salaried employees	391	313	200	135	96	(2)	24.9	56.5	48.1		
Wage earners (average number)	5,339	4,638	3,965	2,653	1,827	1,305	15.1	17.0	49.5	45.2	40.0
Primary horsepower	4,813	4,542	2,440	2,103	1,183	(2)	6.0	86.1	16.0	77.8	
Capital	$9,424,203	$6,705,118	$5,331,939	$4,617,552	$2,269,707	$1,564,738	40.6	25.8	15.5	103.4	45.1
Salaries and wages	3,104,749	2,457,728	1,848,741	1,214,571	876,446	480,535	26.3	32.9	52.2	38.6	82.4
Salaries	598,138	393,350	252,818	147,207	120,891	(2)	52.1	55.6	71.7	21.8	
Wages	2,506,611	2,064,378	1,595,923	1,067,364	755,555	(2)	21.4	29.4	49.5	41.3	57.2
Paid for contract work	40,571	35,779	(2)	(2)	(2)	(2)	13.4				
Rent and taxes (including internal revenue)	222,374	166,712	[3] 142,788	(2)	(2)	(2)	33.4	16.8			
Cost of materials	3,241,657	2,328,674	1,583,644	1,227,997	776,057	805,999	39.2	47.0	29.0	58.2	−3.7
Value of products	7,890,879	6,694,095	4,750,589	3,237,982	2,109,469	1,748,101	17.9	40.9	46.7	53.5	20.7
Value added by manufacture (value of products less cost of materials)	4,649,222	4,365,421	3,166,945	2,009,985	1,333,412	942,102	6.5	37.8	57.6	50.7	41.5

[1] A minus sign (−) denotes decrease; percentages are omitted where base is less than 100. [2] Figures not available. [3] Exclusive of internal revenue.

From 1899 to 1914 the average number of wage earners increased 2,686, or 101.2 per cent, and the value of products, $4,652,897, or 143.7 per cent. From 1909 to 1914 the cost of materials increased 39.2 per cent, while the value added by manufacture increased only 6.5 per cent. In addition to the total value of products for 1914, as reported in Table 1, needles, pins, and hooks and eyes, to the value of $1,155,144, were produced as subsidiary products by establishments engaged primarily in the manufacture of other products, such as suspenders, garters, etc., stamped and enameled ware, sewing machines, and foundry and machine-shop products.

Summary, by states.—Table 2 summarizes the more important statistics of the industry, by states, the states being arranged according to the value of products reported for 1914.

The industry is largely localized in Connecticut, which reported almost two-thirds (64.7 per cent) of the total value of products for the United States in 1914. Pennsylvania ranked second in value of products and New Jersey third.

Table 2

STATE.	CENSUS OF 1914. Number of establishments.	Wage earners. Average number.	Wage earners. Per cent distribution.	Wage earners. Rank. 1914	Wage earners. Rank. 1909	Value of products. Amount.	Value of products. Per cent distribution.	Value of products. Rank. 1914	Value of products. Rank. 1909	Value added by manufacture. Amount.	Value added by manufacture. Per cent distribution.	Value added by manufacture. Rank. 1914	Value added by manufacture. Rank. 1909	PER CENT OF INCREASE.[1] Wage earners (average number). 1909–1914	Wage earners (average number). 1904–1909	Value of products. 1909–1914	Value of products. 1904–1909	Value added by manufacture. 1909–1914	Value added by manufacture. 1904–1909
United States	49	5,339	100.0	.....	.....	$7,890,879	100.0	.....	.....	$4,649,222	100.0	.....	.....	15.1	17.0	17.9	40.9	6.5	37.8
Connecticut	12	3,068	57.5	1	1	5,108,556	64.7	1	1	2,769,103	59.6	1	1	15.9	13.8	20.6	38.3	9.1	35.1
New Jersey	7	515	9.6	3	2	597,066	7.6	3	3	395,865	8.5	3	3	−7.5	.....	−3.7	.....	−9.3	.....
Massachusetts	4	535	10.0	2	5	577,119	7.3	4	6	387,405	8.3	4	6	.....	.....	.....	.....	.....	.....
New York	6	230	4.3	6	6	306,868	3.9	5	4	204,592	4.4	6	5	72.9	−48.8	5.9	3.9	4.2	15.5
New Hampshire	6	366	6.9	5	3	259,854	3.3	6	5	213,034	4.6	5	4	−16.4	24.1	−5.4	32.0	−10.1	29.1
All other states	11	625	11.7	.....	.....	1,041,416	13.2	.....	.....	679,223	14.6	.....	.....	.....	.....	.....	.....	.....	.....

[1] Percentages are based on figures in Table 14; a minus sign (−) denotes decrease. Percentages are omitted where base is less than 100 for wage earners or less than $100,000 for value of products or value added by manufacture, or where comparable figures can not be given.

Persons engaged in the industry.—Table 3 shows, for 1914 and 1909, the number of persons engaged in the industry, distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in "Explanation of terms."

Table 3

CLASS.	Census year.	PERSONS ENGAGED IN THE INDUSTRY. Total.	Male.	Female.	Per cent of total. Male.	Per cent of total. Female.
All classes	1914	5,750	2,928	2,822	50.9	49.1
	1909	4,978	2,553	2,425	51.3	48.7
Proprietors and officials	1914	135	133	2	98.5	1.5
	1909	136	131	5	96.3	3.7
Proprietors and firm members	1914	20	19	1	95.0	5.0
	1909	27	26	1	96.3	3.7
Salaried officers of corporations	1914	55	54	1	98.2	1.8
	1909	46	44	2	95.7	4.3
Superintendents and managers	1914	60	60	.....	100.0	.....
	1909	63	61	2	96.8	3.2
Clerks and other subordinate salaried employees	1914	276	154	122	55.8	44.2
	1909	204	123	81	60.3	39.7
Wage earners (average number)	1914	5,339	2,641	2,698	49.5	50.5
	1909	4,638	2,299	2,339	49.6	50.4
16 years of age and over	1914	5,086	2,562	2,524	50.4	49.6
	1909	4,282	2,117	2,165	49.4	50.6
Under 16 years of age	1914	253	79	174	31.2	68.8
	1909	356	182	174	51.1	48.9

There were 5,750 persons reported as engaged in the industry during 1914, of whom 5,339, or 92.9 per cent, were wage earners. Clerks and other subordinate salaried employees, numbering 276, constituted 4.8 per cent of the total, and proprietors and officials, 135 in number, represented 2.3 per cent. Of the total number of persons employed, 50.9 per cent were males in 1914, and 51.3 per cent in 1909. Wage earners under 16 years of age decreased from 356 in 1909 to 253 in 1914. More than two-thirds of this class in 1914 were females.

Wage earners employed, by months.—The following table gives, for the industry, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

Table 4

MONTH.	WAGE EARNERS IN THE INDUSTRY. Number.[1] 1914	1909	1904	Per cent of maximum. 1914	1909	1904
January	5,497	4,370	3,920	100.0	88.8	97.5
February	5,474	4,424	3,985	99.6	89.9	99.1
March	5,445	4,567	4,012	99.1	92.8	99.8
April	5,421	4,662	3,962	98.6	94.7	98.5
May	5,405	4,704	3,933	98.3	95.6	97.8
June	5,268	4,604	3,912	95.8	93.6	97.3
July	5,318	4,496	3,913	96.7	91.4	97.3
August	5,199	4,652	3,944	94.6	94.5	98.1
September	5,288	4,702	4,022	96.2	95.5	100.0
October	5,279	4,759	4,005	96.0	96.7	99.6
November	5,258	4,789	3,997	95.7	97.3	99.4
December	5,216	4,921	3,975	94.9	100.0	98.8

[1] The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

The average monthly employment of wage earners in 1914 was 5,339; in 1909, 4,638; and in 1904, 3,965. In 1914 the maximum number for the year was employed in January and the minimum in August. In 1909, however, the industry was at its height in December, and January was the month of least activity. Of the three years, 1909 showed the maximum degree of variation within the year, the difference between the months of greatest and least employment being 551.

Table 5 gives the total average number of wage earners employed in the industry, together with the number employed on the 15th (or nearest representative day) of each month during 1914 in each state for which figures can be shown separately.

Table 5 WAGE EARNERS: 1914.
[Month of maximum employment for each state is indicated by **boldface** figures and that of minimum by *italic* figures.]

STATE.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.											Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States	5,339	**5,497**	5,474	5,445	5,421	5,405	5,268	5,318	*5,199*	5,288	5,279	5,258	5,216	94.6
Connecticut	3,068	3,128	3,087	3,120	3,087	3,021	*2,974*	2,978	2,988	3,060	3,091	3,131	3,151	94.4
Massachusetts	535	568	**576**	548	549	543	494	*489*	491	559	538	543	522	84.9
New Hampshire	366	382	388	376	372	368	344	337	*336*	369	368	377	375	86.6
New Jersey	515	*505*	511	513	517	**524**	510	517	523	518	511	514	517	96.4
New York	230	257	260	**268**	256	234	216	207	225	212	219	210	*196*	73.1

Prevailing hours of labor.—In Table 6 the average number of wage earners reported for 1914 and 1909 for the industry and for the leading states in 1914 have been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed. The number employed in each establishment was classified as a total, even though a few employees worked a greater or smaller number of hours.

Table 6 AVERAGE NUMBER OF WAGE EARNERS.

STATE.	Census year.	Total.	In establishments where the prevailing hours of labor per week were—				
			48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.
United States	1914	5,339	20	171	1,178	3,206	764
	1909	4,638	24	35	423	1,815	2,341
Connecticut	1914	3,068	.....	127	.....	2,189	752
Massachusetts	1914	535	.....	.....	535	.....	.....
New Hampshire	1914	366	.....	.....	.....	366	.....
New Jersey	1914	515	1	.....	.....	514	.....
New York	1914	230	.....	28	202	.....	.....

Three-fifths of the wage earners employed in the industy in 1914 were in establishments operating between 54 and 60 hours per week. Of the 3,206 wage earners in this group, 68.3 per cent were reported from Connecticut and 16 per cent from New Jersey. All of the wage earners in Massachusetts, and most of those in New York and Pennsylvania, worked in establishments reporting 54 hours per week as the prevailing period of employment.

Character of ownership.—Table 7 presents statistics concerning the character of ownership, or legal organization, of the establishments in the industry for 1914 and 1909.

The 39 establishments operated under corporate control in 1914 gave employment to 5,235, or 98.1 per cent, of the wage earners and produced 98.3 per cent of the total value of products for all establishments. In 1909 corporations employed 94.3 per cent of the wage earners and manufactured 95.7 per cent of the total products.

Table 7

CHARACTER OF OWNERSHIP.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
All classes	1914	49	5,339	$7,890,879	$4,649,222
	1909	49	4,638	6,694,095	4,365,421
Individual	1914	4	23	24,019	19,279
	1909	10	173	150,151	109,674
Corporation	1914	39	5,235	7,760,588	4,550,623
	1909	32	4,371	6,404,783	4,142,104
All other	1914	6	81	106,272	79,320
	1909	7	94	139,161	113,643
Per cent distribution:					
Individual	1914	8.2	0.4	0.3	0.4
	1909	20.4	3.7	2.2	2.5
Corporation	1914	79.6	98.1	98.3	97.9
	1909	65.3	94.3	95.7	94.9
All other	1914	12.2	1.5	1.3	1.7
	1909	14.3	2.0	2.1	2.6

Size of establishments.—The tendency of the industry to become concentrated in large establishments is indicated by the statistics given in Table 8.

Table 8

VALUE OF PRODUCT.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
All classes	1914	49	5,339	$7,890,879	$4,649,222
	1909	49	4,638	6,694,095	4,365,421
Less than $5,000	1914	6	19	17,082	12,608
	1909	10	31	28,675	23,086
$5,000 to $20,000	1914	10	107	125,690	94,250
	1909	13	123	145,800	106,188
$20,000 to $100,000	1914	17	706	790,821	557,099
	1909	14	729	641,960	529,217
$100,000 and over	1914	16	4,507	6,957,286	3,985,265
	1909	12	3,755	5,877,660	3,706,930
Per cent distribution:					
Less than $5,000	1914	12.2	0.4	0.2	0.3
	1909	20.4	0.7	0.4	0.5
$5,000 to $20,000	1914	20.4	2.0	1.6	2.0
	1909	26.5	2.7	2.2	2.4
$20,000 to $100,000	1914	34.7	13.2	10.0	12.0
	1909	28.6	15.7	9.6	12.1
$100,000 and over	1914	32.7	84.4	88.2	85.7
	1909	24.5	81.0	87.8	84.9

In 1914, 67.3 per cent of the establishments reported products valued at less than $100,000, as com-

pared with 75.5 per cent in 1909. The value of products for these establishments was only 11.8 per cent of the total for the industry in 1914 and 12.2 per cent in 1909.

The establishments that reported products valued at $100,000 or over gave employment to 84.4 per cent of the wage earners and reported 88.2 per cent of the value of products.

Table 9 shows the size of establishments in 1914 and 1909, as measured by the number of wage earners employed for the industry as a whole, and the leading states in 1914.

Table 9

STATE.	Census year.	TOTAL.		ESTABLISHMENTS EMPLOYING—													
				No wage earners.	1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.	
		Establishments.	Wage earners (average number).	Establishments.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.
United States	1914	49	5,339	.....	8	22	12	158	9	297	7	500	7	1,054	3	977	3	2,331
	1909	49	4,638	1	16	41	9	123	6	222	5	328	6	882	3	907	3	2,135
Connecticut	1914	12	3,068	.....	1	4	3	31	1	33	1	94	2	285	1	290	3	2,331
Massachusetts	1914	4	535	.....	.....	.....	.....	.....	1	45	1	86	1	147	1	257	.....	.....
New Hampshire	1914	6	366	.....	.....	.....	.....	.....	3	110	2	104	1	152	.....	.....	.....	.....
New Jersey	1914	7	515	.....	1	1	1	14	2	50	1	100	2	350	.....	.....	.....	.....
New York	1914	6	230	.....	1	2	2	23	1	28	1	57	1	120	.....	.....	.....	.....

A majority of the establishments in the industry are comparatively small. In 1914, 29 of the 49 establishments reported less than 51 wage earners, the number employed being 8.9 per cent of the total, while 6 of the larger establishments, which employed from 251 to 1,000 wage earners, reported 62 per cent of the total.

Engines and power.—Table 10 shows, for 1914, 1909, and 1904, for the industry, the number and horsepower of engines or motors employed in generating power (including electric motors operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated in the establishments reporting.

Table 10

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
				Amount.			Per cent distribution.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904
Primary power, total	298	179	57	4,813	4,542	2,440	100.0	100.0	100.0
Owned	37	40	42	3,984	3,644	2,170	82.8	80.2	88.9
Steam engines and turbines	26	27	28	3,359	3,102	1,816	69.8	68.3	74.4
Internal-combustion engines	1	4	4	5	112	14	0.1	2.5	0.6
Water wheels, turbines, and motors	10	9	10	620	430	340	12.9	9.4	13.9
Rented	261	139	15	829	898	270	17.2	19.8	11.1
Electric	261	139	15	799	860	129	16.6	18.9	5.3
Other	.....	.....	.....	30	38	141	0.6	0.8	5.8
Electric	393	197	32	2,447	1,667	529	100.0	100.0	100.0
Rented	261	139	15	799	860	129	32.7	51.6	24.4
Generated by establishments reporting	132	58	17	1,648	807	400	67.3	48.4	75.6

The total primary power used in the industry increased from 2,440 horsepower in 1904 to 4,813 in 1914, or 97.3 per cent during the decade. At each census power generated by steam constituted more than two-thirds of the total primary power. Electric horsepower increased from 529 in 1904 to 2,447 in 1914, or 362.6 per cent.

Fuel.—Table 11 shows, for 1914, the quantity of each kind of fuel used, for which data were obtained, for the industry as a whole and for five separate states.

Bituminous coal was the principal class of fuel used in 1914. Of the 14,978 tons consumed, 12,529 tons, or 83.6 per cent, were used in Connecticut. The largest quantity of anthracite coal, 2,090 tons, or 45.1 per cent, was used in New Jersey.

Table 11

STATE.	COAL.		Coke (tons 2,000 lbs.).	Oil, including gasoline (barrels)	Gas (1,000 cubic feet).
	Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).			
United States	4,630	14,978	46	1,139	7,627
Connecticut	1,538	12,529	46	1,027	6,174
Massachusetts	806	1,029	.....	.....	547
New Hampshire	85	132	.....	95	200
New Jersey	2,090	.....	.....	1	112
New York	49	760	.....	6	60
All other states	62	528	.....	10	534

SPECIAL STATISTICS RELATING TO QUANTITY AND VALUE OF PRODUCTS.

Table 12 gives detail statistics for the quantities and values of the different varieties of products reported for the industry at the censuses of 1914, 1904, and 1899. Statistics of this character were not called for at the census of 1909.

Table 12	1914	1904	1899
Products, total value[1]	$7,890,879	$4,750,589	$3,237,982
Needles:			
Total thousands	168,734	204,505	161,357
Total value	$1,278,444	$1,140,924	$1,027,949
Knitting-machine—			
Latch—			
Thousands	46,165	44,762	39,764
Value	$492,387	$422,655	$414,504
Spring—			
Thousands	47,934	47,921	44,246
Value	$129,397	$118,223	$114,669
All other needles, including sewing-machine—			
Thousands	74,635	111,822	77,346
Value	$656,660	$600,046	$498,785
Pins:			
Common or toilet—			
Total quantity	(2)	[3] 132,632,232	[3] 47,338,429
Total value	$1,248,757		
Made of steel wire—			
Pounds	641,121		
Value	$163,907		
Packs of 3,360	1,825,673		
Value	$182,585	$1,129,006	$465,605
Made of brass wire—			
Pounds	1,186,397		
Value	$375,780		
Packs of 3,600	1,638,035		
Value	$526,485		
Hairpins, made of metal—			
Gross	9,242,012	1,704,900	1,189,104
Value	$528,362	$109,245	$78,155
Safety pins—			
Gross	4,744,303	2,550,659	1,640,284
Value	$936,663	$829,386	$354,294
Hooks and eyes—			
Great gross	1,076,177		
Value	$1,394,745		
Made of steel wire—			
Great gross	654,714	(4)	(4)
Value	$761,476		
Made of brass wire—			
Great gross	421,463		
Value	$633,269		
All other products, value	$2,503,908	$1,542,028	$1,311,979

[1] In addition, needles, pins, and hooks and eyes, to the value of $1,155,144 in 1914, $942,506 in 1904, and $536,742 in 1899, were produced as subsidiary products by establishments engaged primarily in the manufacture of other products.
[2] Reported in pounds and packs of 3,360 and 3,600 in 1914.
[3] Reported in gross in 1904 and 1899.
[4] Included in "all other products" in 1904 and 1899.

The production of needles in the United States, which consists almost entirely of knitting-machine and sewing-machine needles, amounted to 168,734 thousands in 1914 and was valued at $1,278,444. Of this amount, 94,099 thousands, or 55.8 per cent, were knitting-machine needles, valued at $621,784. The number of needles manufactured in 1914 shows an increase of 7,377 thousands, or 4.6 per cent, over the production in 1899. This increase was confined to knitting-machine needles.

The output of all varieties of pins in 1914 was valued at $2,713,782, of which common or toilet pins formed 46 per cent; metal hairpins, 19.5 per cent; and safety pins, 34.5 per cent.

Common or toilet pins were reported in pounds and packs at the census of 1914, but by the gross in 1904 and 1899; therefore no comparison can be made to show the increased quantity, but the value increased 168.2 per cent during the period from 1899 to 1914.

The quantity of metal hairpins reported for 1914 was nearly eight times that for 1899 and over five times the production of 1904. Safety pins increased 189.2 per cent from 1899 to 1914 in quantity and 164.4 per cent in value.

Of the 49 establishments reported in 1914, 16 manufactured knitting-machine needles; 3, sewing-machine needles; 10, common or toilet pins; 7, metal hairpins; 9, safety pins; 14, hooks and eyes; and 8, snap fasteners and clasps.

Connecticut reported $5,108,556, or 64.7 per cent, of the total value of needles, pins, and hooks and eyes manufactured in 1914; $990,169, or 79.3 per cent, of the common or toilet pins; $321,605, or 60.9 per cent, of the hairpins; and $717,412, or 51.4 per cent, of the hooks and eyes. The 6 establishments in New Hampshire practically confine their operations to the production of knitting-machine needles, reporting this product in 1914, to the value of $238,841, or 38.4 per cent of the United States total. Connecticut was the leading state in the production of knitting-machine needles, though the actual figures can not be presented without disclosing the operations of individual establishments. Connecticut was also the leading state in the production of safety pins.

LIBRARY OF CONGRESS
0 018 537 463 4

DETAIL STATE TABLES.

Table 13 shows, for 1914, 1909, and 1904, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products reported for the industry. Table 14 presents, for 1914, by states, the more detailed statistics of the industry.

TABLE 13.—COMPARATIVE SUMMARY FOR 1914, 1909, AND 1904.

STATE.	Census year.	Number of establishments.	Wage earners (average number).	Primary horsepower.	Wages.	Cost of materials.	Value of products.
					Expressed in thousands.		
United States	1914	49	5,339	4,813	$2,507	$3,242	$7,891
	1909	49	4,638	4,542	2,064	2,329	6,694
	1904	46	3,965	2,440	1,596	1,584	4,751
Connecticut	1914	12	3,068	3,235	1,548	2,339	5,109
	1909	8	2,648	3,190	1,311	1,697	4,236
	1904	13	2,326	1,654	1,055	1,182	3,062
New Hampshire	1914	6	366	247	159	47	260
	1909	7	438	217	171	38	275
	1904	6	353	249	127	25	208
New Jersey	1914	7	515	329	215	201	597
	1909	7	557	524	230	184	620
New York	1914	6	230	187	92	102	307
	1909	9	133	157	50	93	290
	1904	8	260	89	82	109	279
All other states	1914	18	1,160	815	493	553	1,618
	1909	18	862	454	302	317	1,273
	1904	19	1,026	448	332	268	1,202

TABLE 14.—DETAIL STATISTICS, BY STATES: 1914.

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.							WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Capital.	EXPENSES.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.		Total.	16 and over.		Under 16.			Salaries and wages.	
					Male.	Female.	Average number.	Number, 15th day of—		Male.	Female.	Male	Female		Officials.	Clerks, etc.
								Maximum month. / Minimum month.								
United States	49	5,750	20	115	154	122	5,339	Ja 5,497 / Au 5,199	5,408	2,595	2,557	80	176	$9,424,203	$308,408	$289,730
Connecticut	12	3,286	7	44	96	71	3,068	De 3,151 / Je 2,974	3,146	1,694	1,286	54	112	4,984,274	131,777	179,471
Massachusetts	4	591	3	17	22	14	535	Fe 576 / Jy 489	558	268	286	3	1	1,175,920	47,416	31,630
New Hampshire	6	377	.....	7	1	3	366	Fe 388 / Au 336	375	183	191	.....	1	214,380	10,480	2,501
New Jersey	7	546	1	14	8	8	515	My 524 / Ja 505	517	222	261	20	14	654,452	32,900	11,076
New York	6	249	3	10	4	2	230	Mh 268 / De 196	196	77	113	3	3	395,473	22,770	5,631
All other states[1]	14	701	6	23	23	24	625	..... /	616	151	420	.....	45	1,999,704	63,065	59,421

STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.					
	Salaries and wages—continued.		Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
	Wage earners.	For contract work.	Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines.[2]	Internal-combustion engines.[3]	Water wheels and motors.[2]	Electric (rented).	
United States	$2,506,611	$40,571	$161,186	$61,188	$3,132,980	$108,677	$7,890,879	$4,649,222	4,813	3,359	35	620	799	1,648
Connecticut	1,547,548	20,442	111,852	38,089	2,275,171	64,282	5,108,556	2,769,103	3,235	2,615	.....	510	110	1,450
Massachusetts	267,800	.....	5,663	11,844	175,917	13,797	577,119	387,405	390	190	.....	.....	200	.....
New Hampshire	159,457	403	1,800	2,066	43,165	3,655	259,854	213,034	247	50	15	110	72	40
New Jersey	215,421	100	1,068	3,265	193,790	7,411	597,066	395,865	329	304	5	.....	20	128
New York	91,826	16,978	4,143	1,735	98,987	3,289	306,868	204,592	187	150	.....	.....	37	30
All other states[1]	224,559	2,648	36,660	4,189	345,950	16,243	1,041,416	679,223	425	50	15	.....	360	.....

[1] All other states embrace: California, 1 establishment; Illinois, 1; Michigan, 2; Ohio, 1; Oregon, 1; Pennsylvania, 7; and Rhode Island, 1.
[2] Owned power only.
[3] Includes rented power, other than electric.